

L 10506-65 EWT(d)/EEC(k)-2/T/ED-2/EWP(1) Pm-4/Po-4/Pq-4/Pg-4/Ph-4/Pk-4/  
 PI-4 IJP(c)/ASD(a)-5/AEDC(a)/BSD/ESD(c)/AFMD(p)/ASD(d)/ESD(dp)/AFETR/ESD(t)/  
 AFTC(b)/FAEM(t) BB/GG  
 ACCESSION NR: AT4046516 S/2976/64/000/004/0005/0012

AUTHOR: Anisimov, B. V. (Doctor of technical sciences, Professor); Solomatina, N. M.

TITLE: Discrete electronic device for solving information-logic problems

SOURCE: Moscow. Vyssheye tekhnicheskoye uchilishche. Vychislitel'naya  
tekhnika, no. 4, 1964, 5-12

TOPIC TAGS: logic, information problem, data processing, logic problem, magnetic  
 drums, magnetic tape

ABSTRACT: The authors provide a definition of what is meant by the term "informa-  
 tion-logic problem", point out some specific peculiarities of this class of  
 problem, and analyze the difficulties encountered in solving such problems on  
 universal, discrete, program-controlled systems. The need for specially designed  
 hybrid systems for information processing, which will combine the characteristics  
 of universal discrete systems and of systems specially adapted to the solution of  
 information-logic problems, is pointed out as a possible answer to the problem.  
 Such a machine is the "Ural-4". In the present article, the authors consider the  
 solution of such a problem, relating to the processing of industrial information,  
 by means of a specialized electronic device using magnetic drums and tapes. It is

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pointed out that, from the point of view of discrete technology, the unit of information to be processed is a word consisting of two parts. The information characteristics and algorithm of the process are fully described, with special attention to the recovery operator and the rules for writing the operator circuits of the algorithms. The sequential order followed in the execution of the algorithms is explained and a block diagram is given for a discrete device capable of carrying out the algorithms discussed in the paper. This device is said to be an integral part of a specialized system with a capability of processing 20,000 words. Each word contains 56 binary-digits, of which 19 are assigned to attrition and 37 to content. Two magnetic drums are employed with a capacity of 10,000 nineteen-place binary-digit numbers and three tape-advance mechanisms with four tape-recorders in each. The capacity of one recorder is 25,000 nineteen-place binary-digit numbers. Orig. art. has: 1 figure and 9 formulas.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: DP

NO REF SOV: 004

OTHER: 000

Card 2/2

L 13073-65 EWT(d)/EEG(k)-2/EED-2/EWP(1) Pg-4/Pk-4/Po-4/Pq-4 IJF(c),  
AFETR/AFTC(b)/BSD/ASD(a)-5/RAEM(1)/ESD(dp) GG/BB

ACCESSION NR: AT4046523

8/2976/64/000/004/0090/0098

AUTHORS: Anisimov, B. V.; Solomatin, N. M. B

TITLE: Device for recording synchronizing and control pulses on a magnetic drum

SOURCE: Moscow. Vysshaye tekhnicheskoye uchilishche. Vyshislitel'naya tekhnika, no. 4, 1964, 90-98

TOPIC TAGS: magnetic drum, <sup>16C</sup> drum storage, computer memory, control pulse recording, synchronizing pulse recording

ABSTRACT: Among the different methods of placing the synchronizing and control pulses on a magnetic drum memory, particular attention is directed to the mechanical and the magnetic method. The disadvantages of the former are noted, and various non-mechanical (principally magnetic) techniques for recording the pulses on one- and three-track drums are considered. The authors note that in almost all cases the suggested methods for recording synchronizing and control pulses on magnetic drums involve either a concrete discrete system (thus being unacceptable in a general case) or the development of separate and independent mechanisms which are excessively primitive and, thus, also fail to provide a solution to the problem in a general sense. In the present article, the authors consider an

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ACCESSION NR: AT4046523

electronic device for recording synchronizing and control pulses which provides a solution to the problem in a general case. Specifically, it permits: 1) the marking off of drums on which the working information is recorded and reproduced by the sequential, parallel or sequential-parallel methods; 2) the assignment of any number of synchronizing and control pulses; 3) the varying of the frequency of the synchronizing and control pulses; 4) the marking off of a magnetic drum during one revolution for all tracks simultaneously (after which the device is switched off; 5) the marking off of the drum from any arbitrarily selected position on the drum, and also in a forced manner from a single pulse inscribed on the drum; 6) the simultaneous marking off of several drums. An operational diagram of the device is given and its operational principles are analyzed on the basis of an example involving the recording of synchronizing and control pulses on three tracks (as required in the sequential-parallel method). Individual circuit components of the device are discussed separately and in somewhat greater detail. These include the pulse generator, the recording amplifier, and the reproduction amplifier. It is claimed that an experimental check both of the unit as a whole and of its individual components, revealed the operation to be quite reliable. Orig. art. has: 8 figures and 4 formulas.

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L 13073-65

ACCESSION NR: AT4046523

ASSOCIATION: none

SUBMITTED: 00

NO REF SOV: 001

OTHER: 001

SUB CODE: DF

ENCL: 00

Card

3/3

SOLOMATIN, O.M., inzh.

Hand wrenches for high-strength bolts. Transp. stroi. 12 no.5:49-50  
My '62. (MIRA 15:6)

(Wrenches)

SOLOVATIN, P. (Sestroretsk)

Dermatitis caused by sumac. Vest. dermat. i ven. 36 no.10:38-42  
0'62 (MIRA 16:11

\*

SOLOMATIN, P.N. (Yuzhno-Kuril'sk)

Treatment of some skin diseases with water from the hot springs  
of the Kunashir Island. Vest. dermat. i ven. 38 no.3:56-61 Mr '64.  
(MIRA 18:4)



10.05.1978, P.M.

Treatment of some skin diseases with the waters of the hot  
springs of Kurashir Island. Vop. kur., fizioter. i lech. fiz.  
kul't. 50 no.1:78-79 30-31 '65. (M'PA 18:8)

SCV/25-59-3-10/46

30(1)

AUTHOR:

Solomatin, S.

TITLE:

Diktex (Dikoteks)

PERIODICAL:

Nauka i zhizn', 1959, Nr 3, p 30 (USSR)

ABSTRACT:

In 1958, several dozens of thousand hectares of flax seeds were treated with the new Czech herbicide "Dikotex" to inhibit the growth of weeds. However, the sprinkling of Diktex over flax fields proved to be difficult since large quantities adversely affect the physiological process of the plant, while small quantities cause an intensified growth. The best time for treatment is at a plant height of 8-10 cm, when no damage can be done to the narrow leaves. To increase the efficiency of sprinkling methods, M.Ya. Berezovskiy, Candidate of Agricultural Sciences, and Scientific Co-Worker of the Pochvenno-agronomicheskaya stantsiya imeni V.R. Vil'yamsa (Soil and Agricultural Station imeni V.R. Vil'yams) suggested

Card 1/2

POLOVCHENKO, I. G.; LOGINOV, V. I.; DUBENKO, Yu. S.; SOLOMATIN, S. M.

Desulfuration of cast iron by magnesium in the ladle. Izv. vys.  
ucheb, zav.; chern, met. 7 no. 4:31-36 '64. (MIRA 17:5)

1. Dneprodzerzhinskiy metallurgicheskiy zavod-vtuz.

SOLOMATIN, S.S.

Characteristics and nature of monophasic potentials. Trudy Inst.  
norm.i pat. fiziol. AMN SSSR 7:92-93 '64.

(MIRA 18:6)

1. Laboratoriya vozrastnoy fiziologii i patologii (zav. - prof.  
I.A.Arshavskiy) Institute normal'noy i patologicheskoy fiziologii  
AMN SSSR.

L 22345-56

ACC NR: AP6013513

SOURCE CODE: UR/0120/66/000/002/0129/0131

AUTHOR: Barenboym, G. M.; Domanskiy, A. N.; Solomatin, V. P.

ORG: Cytology Institute, AN SSSR, Leningrad (Institut tsitologii AN SSSR)

TITLE: Characteristics of cooled photomultipliers of FEU-39 and FEU-46A types

SOURCE: Priory i tekhnika eksperimenta, no. 2, 1966, 129-131

TOPIC TAGS: photomultiplier, photocathode, light emission

ABSTRACT: Results are given of an investigation of the sensitivity and the dark current of the FEU-39 and FEU-46A nitrogen-cooled photomultipliers having antimony-cesium photocathodes without a conducting substrate. Light from an SVD-120A lamp passed through the quartz light guide and the ZMR-3 monochromator, illuminating the photocathodes. A photocurrent two or three times greater than the dark current at room temperature corresponds to the "weak" light flux with  $5 \times 10^3$  photons/sec. The photocurrent due to a "strong" light flux was not less than  $5 \times 10^{-8}$  amp which, according to the calculation, corresponds to a flux with  $5 \times 10^5$  photons/sec. The signal from the "weak" light flux and the photomultiplier noise were measured by counting the pulses developing across the photomultiplier load. Signals from the

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UDC: 621.383.53

L 22345-66

ACC NR: AP6013513

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"strong" light flux were measured by the microammeter. The following conclusions were reached: Cooling of photomultipliers limits the range of operating light fluxes. If the recorded light flux is sufficiently weak ( $< 5 \times 10^3$  photons/sec), the photomultiplier may be cooled to the temperature of liquid nitrogen. Under the action of "strong" light fluxes ( $< 5 \times 10^5$  photons/sec), cooling below  $-80^\circ\text{C}$  leads to a sensitivity drop. The sensitivity, which is dependent at the given temperature on the intensity of the light flux, is not immediately restored, which leads to certain limitations in rapid measurements. Optimum cooling temperatures and signal-to-noise ratios for various light fluxes are determined. Orig. art. has: 4 figures. [CS]

SUB CODE: 09/ SUBM DATE: 29Mar65/ ORIG REF: 008/ ATD PRESS: 4242

Card 2/2 *dda*

SOLOMATIN, V.I., inzh.

Adjustment nomograms for D-370 dosing devices used in mixers.  
Stroil. 1 der. mashinestr. 3 no. 8:19 Ag '58. (MIRA 11:8)  
(Mixing machinery)

KAGAN, F.I., kand. veter. nauk; SOLOMATIN, V.I., mladshiy nauchnyy  
sotrudnik

Biomecin and terramycin treatment of necrobacillosis in  
cattle and sheep. Veterinariia 40 no.3:53-54 Mr '63.  
(MIRA 17:1)

1. Gosudarstvennyy nauchno-kontrol'nyy institut veterinarnykh  
preparatov.



SOLOMATIN, V., komandir ekipazha samoleta An-2.

Looking into the future. Grazhd. av. 20 no.1:11 Ja '63.  
(MIRA 16:4)

(Aeronautics in agriculture)

SAKHAROV, B.N., inzh.; SOLOMATIN, V.I., inzh.

Using movable mixing plants in making black-gravel pavements.  
Avt.dor. 22 no.1:18-19 Ja '59. (MIRA 12:2)  
(Pavements) (Road machinery)

MIKHAYLOV, Aleksey Nikolayevich; SOLOMATIN, V.I., red.; GANYUSHIN, A.I.,  
red.izd-va; DONSKAYA, G.D., tekhn.red.

[Operating the D-370 mixer and the D-371 loader] Eksploatatsiya  
smesitelia D-370 i pogruzchika D-371. Moskva, Nauchno-tekhn.izd-vo  
M-va avtomobil'nogo transp. i shosseinykh dorog RSFSR, 1960. 65 p.  
(MIRA 13:12)

(Road machinery)

SOLOV'YEV, Nikolay Vladimirovich; STUKUSHIN, V.I., retsenzent; ~~SOLOMATIN~~  
~~V.M.~~, retsenzent; FRIK, A.O., redaktor; KAN, P.M., redaktor  
izdatel'stva; KRASNAYA, A.K., tekhnicheskij redaktor

[Electric propeller equipment for river boats fo the Rossia"  
type] \*elektrogrebnaya stanovka rechnykh sudov tipa "Rossia."  
Moskva, Izd-vo "Rechnoi transport," 1957. 65 p. (MLRA 10:9)  
(Ship propulsion, Electric)

SOLCMATIN, Vladimir Mikhaylovich, inzh.; SUKHOV, Dmitriy Konstantinovich,  
inzh.; SKVORTSOV, D.R., retsenzent; KAN, P.M., red. izd-va;  
BODROVA, V.A., tekhn. red.

[Electrical engineering and telecommunication] Elektrotehnika  
i elektrosviaz'. Moskva, Izd-vo "Rechnoi transport," 1960.  
347 p. (MIRA 15:1)  
(Electricity on ships) (Telecommunication)

SOLOMATIN, V.M.; YAURE, A.G., inzh.; KONSTANTINOV, V.P.,  
retsenzent; PETUKHIN, M.N., inzh.; TRUGLIK, G.L.,  
retsenzent; TUPITSA, I.S., retsenzent; FRIK, A.O., inzh.,  
nauchn. red.

[Manual for ship engineers and electricians] Spravochnik  
elektromekhanika i elektrika sudna. Moskva, Izd-vo  
"Rechnoy transport," 1963. 713 p. (MIRA 17:2)

SOLOMATIN, V.P.

Faulty construction of track boxes. Avtom., telem. i svyaz' 4 no.2:  
44 F '60. (MIRA 13:6)

1. Starshiy elektromekhanik Kurskoy distantzii signalizatsii i svyazi  
Moskovskoy dorogi.  
(Railroads--Equipment and supplies)

L 11274-53

BDS

8/0109/63/008/007/1156/1164

46

ACCESSION NR: AP3003716

AUTHOR: Mustel', Ye. R.; Parygin, V. N.; Solomatin, V. S.

TITLE: Two-circuit parametric frequency dividers

SOURCE: Radiotekhnika i elektronika, v. 8, no. 7, 1963, 1156-1164

TOPIC TAGS: parametric frequency divider, series-connected divider, parallel-connected divider, pumping frequency generator, frequency division band, oscillation amplitude, pumping current, diode bias

ABSTRACT: A two-circuit parametric frequency divider with a series- or parallel-connected pumping frequency generator is studied. The study includes a theoretical summary of the operation of the device and an analysis and comparison of the operations of both types of circuits for the case when division factor  $n = 4$ . A parametric frequency divider with a D7 diode and a pumping frequency of 8-10 Mc was investigated. For the circuit with the series-connected pumping frequency generator, small relative frequency division bands were achieved. At  $n = 4$  the relative band,  $\Delta f/f = 1\%$ . With an increase in the division factor, the band decreased, and at  $n = 8$  division no longer took place. In the case of the parallel-connected pumping frequency generator

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ACCESSION NR: AP3003716

division by a factor of 3--30 was observed. The dependence of oscillation amplitude in the division band and in the low-frequency circuit on detuning at a constant pumping current was plotted. At small pumping currents, oscillation amplitude changed with detuning, but with an increase in pumping current these changes became insignificant. The graph representing the dependence of division bandwidth on pumping current at a constant diode bias showed an increase in bandwidth with an increase in pumping frequency. At large pumping currents, the bandwidth begins to decrease. This phenomenon is probably caused by the occurrence of conductivity current in the diode. Orig. art. has: 6 figures, 10 formulas, and 1 table.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosov. Kafedra teorii kolebaniy (Physics Faculty, Moscow State University. Department of Oscillation Theory)

SUBMITTED: 20Jun62

DATE ACQ: 02Aug63

ENCL: 00

SUB CODE: SD

NO REF SOV: 005

OTHER: 000

1s/10  
Card 2/2

(13,71)

08/0161/00/000/011/3366/3350

AUTHOR: Chetkin, M. V.; Solomatin, V. S.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: The magneto-optic modulation of an infrared gas laser

SOURCE: Fizika tverdogo tela, v. 8, no. 11, 1966, 3388-3390

TOPIC TAGS: gas laser, infrared laser, laser output modulation, Q switching, magneto optic modulation

ABSTRACT: An experimental study was made of the modulation of output from an infrared gas laser by means of the Faraday effect with a view to devising a means of varying the emission intensity of Q-switching of infrared lasers. The emission from an He-Ne laser operating at 3.39  $\mu$  was monitored by a GaSb photodiode. A  $\text{YFeO}_{12}$  single crystal 0.18 cm thick was used to transmit one-half of the incident laser radiation and was placed in a 15-turn coil 1.2 cm in diameter. The 2000-oe saturating magnetic field was set up by means described elsewhere (P. L. Kapitza, UFN, 11, 533, 1931) using discharge currents from two 0.1 and 0.004  $\mu\text{f}$  condensers charged to 1 and 4 kv, respectively. The minimum magnetization time was 0.125  $\mu\text{sec}$ . With the analyzer at a 45° angle to the polarization plane of the laser output, a 40% modulation of radiation intensity was observed on the oscilloscope. The correspond-

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ZHUKOV, Vasilii Andreyevich; MESYATSEV, P.P., retsenzent; LICHNOV, A.I.,  
inzh., retsenzent; SHIROKOVA, Z.G., inzh., retsenzent; GUREVICH,  
B.D., inzh., retsenzent; BASTANOV, S.S., inzh., retsenzent;  
GOLOVINA, K.N., inzh., retsenzent; BEL'TSEV, A.N., inzh., retsen-  
zent; SOLOMATIN, V.V., inzh., retsenzent; MARSHEV, N.I., inzh.,  
retsenzent; MARSHEV, N.I., inzh., retsenzent; BALASHEVA, T.I.,  
inzh., retsenzent; GIRSHMAN, G.Kh., red.; ANGELEVICH, N.E., red.;  
SOBOLEVA, Ye.M., tekhn.red.

[Technology of the manufacture of radio equipment] Tekhnologiya  
proizvodstva radioapparatury. Moskva, Gos.energ.izd-vo, 1959.  
636 p. (MIRA 13:3)

(Radio industry)

ACC NR: AT7005248

SOURCE CODE: UR/2631/66/000/008/0079/0084

AUTHOR: Belyayeva, G. I.; Anfinogenov, A. I; Solomatin, V. Ye; Ilyushchenko, N. G.

ORG: none

TITLE: On the structure and properties of an electrolytic aluminum coating on molybdenum

SOURCE: AN SSSR. Ural'skiy filial. Institut elektrokhimii. Trudy, no. 8, 1966. Elektrokhiimiya rasplavlennykh solevykh i tverdykh elektrolitov; fiziko-khimicheskiye svoystva elektrolitov i elektrodnyye protsessy (Electrochemistry of fused salts and solid electrolytes; physicochemical properties of electrolytes and electrode processes), 79-84

TOPIC TAGS: metal plating, molybdenum, metal coating

ABSTRACT: Aluminum coatings deposited on molybdenum by electrolyzing a fused electrolyte of the composition (wt. %)  $\text{BaCl}_2$  73,  $\text{NaF}$  11.5,  $\text{AlF}_3$  15.5 were studied by metallographic and x-ray structural analyses, by measuring the polarization of the molybdenum cathode, and by determining the high-temperature strength and oxidation resistance. The phase composition of the Al coating was studied as a function of the electrolysis conditions (current density and time). Electrolytic saturation of the molybdenum surface with aluminum was found to lead to the formation of two- and three-layer coatings, depending upon the electrolysis conditions. To protect molybdenum from high-temperature oxidation, an aluminum coating of the composition Al,  $\text{MoAl}_{12}$ ,

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SOURCE CODE: UR/0276/66/000/008/D064/D064

ACC NR: AR6035432

AUTHOR: Belyayeva, G. I.; Anfinogenov, A. I.; Solomatin, V. Ye, Ilyuchchenko, N. G.

TITLE: Structure and properties of an electrolytic aluminum coating on molybdenum

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya, Abs. 8D410

REF SOURCE: Tr. In-ta elektrokhemii. Ural'skiy fil. AN SSSR, vyp. 8, 1966, 79-84

TOPIC TAGS: molybdenum, electrolytic deposition, aluminum plating, metal coating, surface hardness

ABSTRACT: The authors present results of investigations of the structure and properties of aluminum coatings on molybdenum, produced by electrolysis of molten salts. For the alitiration of the molybdenum (sintered rod), an electrolyte was used with composition (% by weight)  $\text{BaCl}_2$  73,  $\text{NaF}$  11.5,  $\text{AlF}_3$  15.5. The surface of the sample was polished before the alitiration. The structure and the composition of the obtained coating were investigated metallographically and by x ray structure methods. The microhardness distribution over the depth of the coating was measured with a PMT-3 instrument with a 20 gram load. The tests for heat endurance were made at  $1200^\circ$  in air. It is shown that the electrolytic saturation of the molybdenum surface with aluminum leads to formation of two- and three-layer coatings, depending on the electrolysis conditions; to protect the molybdenum against the high-temperature oxidation, aluminum coatings with compositions  $\text{Al}$ ,  $\text{MoAl}_{12}$ , and  $\text{Mo}_6\text{Al}_8$  are recommended; a coating of a given composition can be obtained at a temperature of  $900^\circ$ , current density 0.1

UDC: 621.357.7: 669.718

Card 1/2

KORSHAK, V.V.; ZAMYATINA, V.A.; BEKASOVA, N.I.; OGANESYAN, R.M.;  
SOLOMATINA, A.I.

Polyesters of boric acid. Izv.AN SSSR.Ser.khim. no.8:1496-1502  
Ag '63, (MIRA 16:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.  
(Boric acid) (Esters)

KORSHAK, V.V.; SOLOMATIN, A.I.; BEKASOVA, N.I.; ZAMYATINA, V.A.

Polycondensation of trimeric dimethylphosphinoborane with boron-substituted borazoles. Izv. AN SSSR Ser.khim. no.10:1856-1857 0  
'63. (MIRA 17:3)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

L 8488-65 EWT(m)/EPF(c)/EPR/EWP(j)/EWA(h) Pc-4/Pr-4/Ps-4/Peb ASD(m)-3/  
AS(mp)-2/RFL WW/RM

ACCESSION NR: AP4044710

S/0062/64/000/008/1541/1543

AUTHOR: Korshak, V. V.; Zamyatina, V. A.; Solomatina, A. I.

TITLE: Phenylphosphine-borane complex, pyrolysis

SOURCE: AN SSSR. Izvestiya, Seriya khimicheskaya, no. 8, 1964, 1541-1543

TOPIC TAGS: phenylphosphine borane complex, (phenylphosphino)borane polymer, inorganic polymer, boron containing polymer, phosphorous containing polymer

ABSTRACT: In an attempt to prepare a homogeneous tridimensional network polymer of the composition  $(C_6H_5PBH)$  the pyrolysis of the phenylphosphine-borane complex at 150-250C was performed for the first time. It was found that at 150C, the complex liberates 1 mol of hydrogen to form a (phenylphosphine)borane polymer with a molecular weight of 2150, which is probably linear in structure. With increasing temperature, the amount of liberated hydrogen increases to a maximum of 1.5 mol and the linear polymer becomes cross linked. The pyrolysis is accompanied by degradation, the rate of which in-

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creases with temperature, and which results in the splitting off of phenylphosphine and the formation of a boron-rich residue capable of being oxidized in air. The pyrolysis is assumed to proceed as follows:



Orig. art. has: 1 formula and 1 table.

ASSOCIATION: Institut elementoorganicheskikh soedineniy AN SSSR  
(Institute of Organoelemental Compounds, AN SSSR)

SUBMITTED: 20Jan64

ATD PRESS: 3108

ENCL: 00

SUB CODE: IC, MT

NO REF SOV: 000

OTHER: 004

Card 2/2

L 41351-65; ENG(j)/EWT(m)/EPF(c)/EPF(h)-2/EPR/EWP(j)/T/EWA(h)/EWA(1) Pc-4/  
Pr-4/Ps-4/Pt-10/Peb/Pu-4 RPL WW/GG/RM  
ACCESSION NR: AP5001997 S/0020/64/159/006/1361/1363

56  
53  
3

AUTHOR: Zamyatina, V.A.; Korshak, V.V. (Corresponding member AN SSSR); Solomatina, A.I.; Chidishov, Yu. G.; Tsetlin, B.L.; Rafikov, S.R.; Glazunov, P. Ya.

TITLE: Radiation synthesis of polymers with the base of trimeric cyclic dimethyl phosphinoborine

SOURCE: AN SSSR. Doklady, v. 159, no. 6, 1964, 1361-1363

TOPIC TAGS: radiation polymer synthesis, trimeric cyclic dimethyl phosphinoborine, irradiation effect, linear structure, polycyclic structure

ABSTRACT: It was shown recently (V. V. Korshak and N. I. Bekasova, Vy\*so-komolek. Soyed. 5, 1447 (1963)) that borasoles are polymerized under the action of ionizing radiation and form polymer products of polycyclic structure. It can be expected that irradiation may produce a similar effect in cyclic phosphinoborines. The authors selected for this purpose the trimeric cyclic dimethyl phosphinoborine. The irradiation was accomplished with the electronic accelerator of

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the Institute for Physical Chemistry AN SSSR at 800 kv with a dose of  $6.5 \times 10^4$  rad/sec. With irradiation of  $4 \times 10^{16}$  ev/gm. sec, about 70% of the original monomer was transformed into polymer products of two types, one of which was insoluble in benzene, the other soluble. Their composition and thermomechanical properties were investigated. It was established that the products formed are polymers of a linear and of a polycyclic structure. Orig. art. has: 2 figures

ASSOCIATION: Institut elementoorganicheskikh soyedineniy , Akademii nauk SSSR (Institute of Organoelemental Compounds, Academy of Sciences, SSSR)

SUBMITTED: 07Jul64

ENCL: 00

SUB CODE: GC, NP

NR REF SOV: 001

OTHER: 002

Card *ce* 2/2

3.1810  
3.9120

39101  
S/169/62/000/006/054/093  
D228/D304

AUTHORS: Fel'dshteyn, Ya. I. and Solomatina, E. K.

TITLE: Some questions of the geographic distribution of auro-  
ras in the northern hemisphere

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 6, 1962, 24-25,  
abstract 69141 (V sb. Polyarn. siyaniya i sveceniye  
nochn. neba, no. 7, M., AN SSSR, 1961, 51-60)

NOTE: Diurnal changes in the appearance frequency of zenith auro-  
ral forms are analyzed from the material of forty northern hemi-  
sphere stations, situated in a large latitudinal interval -- from  
the auroral zone to the circumpolar region. The diurnal changes  
were calculated from auroral ascaplots for the first observational  
season of the IGY (the winter of 1957-1958). It appeared that ac-  
cording to the nature of the diurnal variations in the frequency  
of auroral appearances, the high-latitude region can be split into  
four belts: a) At stations (Arctic II, Nord, Alert), situated in  
the circumpolar region, there is a maximum in the frequency of

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some questions of ...

39101  
S/169/62/000/006/084/093  
D228/D304

auroral appearances at about noon local time, with a weaker maximum in the morning hours local time (around local geomagnetic noon); around midnight the frequency of auroral appearances is minimal. b) Stations near the second auroral zone (Resolute Bay, Godhaven, Cape Tobin, Murchison Bay (Murchison Bay)) have a morning maximum at 6 - 8 hrs local time. At Stns. Murchison Bay and Cape Tobin a further maximum appears in the evening hours. c) At stations located between the first and second auroral zones, there are two maxima in the diurnal changes of the frequency of auroral appearances -- in the morning and in the evening; in comparison with the extremes, observed at stations situated near the second zone, the maxima shift closer to midnight. d) Stations near the first auroral zone are characterized by one maximum at about midnight local time. The morning maximum appears on moving from the main auroral zone towards higher geomagnetic latitudes, starting from  $0 \sim 67^\circ$  in the eastern hemisphere and from  $0 \sim 73^\circ$  in the western, i.e. at  $3 - 4^\circ$  to the north of the main auroral zone. A comparison is given for the diurnal magnetic activity variations in the winter of 1957-1958 and the appearance of auroras in different belts

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Some questions of ...

<sup>39101</sup>  
S/169/62/000/006/084/093  
D228/D304

in this winter. The magnitude of the Q-index is taken as a measure of the magnetic activity: a) Near the geomagnetic pole the magnetic activity for the period November 1957 - February 1958 is maximum around local noon. In the circumpolar area the maximum in the diurnal changes of magnetic disturbances cannot coincide with that for the frequency of auroral appearances; the extreme for the appearance of auroras somewhat anticipates the maximum for the magnetic activity's diurnal variation. b) In the area of the second auroral zone the maximum in the daily changes of the frequency of auroral appearances somewhat anticipates the corresponding maximum for the diurnal magnetic activity changes; magnetic disturbances are not related to the appearance of auroras at the zenith. c) Between the first and second auroral zones the morning maximum for the frequency of auroral appearances coincides or somewhat anticipates that for the magnetic activity. The evening maximum in the frequency of auroral appearances falls on the magnetic activity minimum and, on the contrary, the evening magnetic activity maximum falls on the minimum for the frequency of auroral appearances. d) Near the -auroral zone the maxima for the diurnal magnetic activity and auro-

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S/169/62/000/006/084/093  
1228/D304

Some questions of ...

ral changes either coincide or are displaced in relation to each other. In the latter case the maximum in the frequency of auroral appearances anticipates that for the magnetic activity's diurnal variations. In high latitudes the relation of the latitude of auroral appearances to the universal time can have a double character: 1) both the degree of magnetic disturbance and the intensity and the frequency of auroral appearances strengthen simultaneously with respect to universal time. 2) Depending on the orientation of the earth's magnetic field relative to the line earth-sun, the most favorable conditions for the surmounting of the earth's magnetic barrier by solar corpuscular flows are created at definite moments of universal time; therefore, auroras and magnetic disturbances arise most often in these hours. The changes due to the first cause are determined by variations in the density and energies of a corpuscular flow's particles. Those induced by the second cause depend on the magnetic field's orientation relative to the line earth-sun. /Abstracter's note: Complete translation.\_/ ✓

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FEL'DSHTEYN, Ya.I.; SOLOMATINA, E.K.

Auroras in the Southern Hemisphere. Geomag. i aer. 1 no.4:  
534-539 J1-Ag '61. (MIRA 14:12)

1. Institut zemnogo magnetizma, ionosfery i rasprostraneniya  
radiovoln AN SSSR.

(Auroras)



L 23291-65 EWT(1)/FSF(h)/FSS-2/FS(v)-3/ENG(s)-2/FCC/ENA(d)/EEC(t) Po-4/Ps-5/Pg-4/  
ACCESSION NR: AP5001986 Pae-2/Pi-4 TT/ S/0020/64/159/006/1272/1275  
AUTHOR: Gringauz, K. I.; Dolginov, Sh. Sh.; Bezrukikh, V. V.; Yero-  
shenko, Ye. G.; Zhuzgov, L. N.; Musatov, L. S.; Solomatina, E. K.;  
Fastovskiy, U. V.

TITLE: Observations using the artificial satellite Electron-2 of the  
correlation between variations of the magnetic field and streams of  
positive ions inside the terrestrial magnetosphere.

SOURCE: AN SSSR. Doklady, v. 159, no. 6, 1964, 1272-1275

TOPIC TAGS: artificial satellite, magnetometer, positive ion, geomag-  
netic field, magnetosphere, radiation belt, flux intensity, negative  
ion, theoretical field, apogee distance

ABSTRACT: The artificial satellite Electron-2, equipped with magne-  
tometers and a trap for charged particles, recorded positive ions of  
all energies, their fluxes with energies of more than 100 ev, and  
measured all three components of the geomagnetic field in the magne-  
sphere and at radiation belts. Recorded data showed a correlation  
between the variations of the magnetic activity on the terrestrial

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L 23231-65  
ACCESSION NR: AP5001986

surface and the intensities of fluxes of positive ions and the magnetic field far from the earth. This correlation was observed on quiet days and on days with magnetic disturbances. Numerous negative ion fluxes were recorded on magnetically quiet days. During this time, the magnetometer recorded a magnetic field of regular intensity although it exceeded the theoretical field by 20 γ. The maximum deflection from the theoretical field was detected at the apogee of the satellite. On 12 February 1964, all magnetic observatories on the earth recorded magnetic disturbances of sudden commencement while the trap in the satellite recorded positive ion fluxes exclusively of an intensity of  $4 \cdot 10^{-10}$  amp. At this time the satellite was at apogee. The magnetometer recorded a rapid increase in the magnetic field. Orig. art. has: 4 figures. [EG]

ASSOCIATION: none

SUBMITTED: 15Sep64

NO REF SOV: 003

ENCL: 00

OTHER: 008

SUB CODE: ES,SV

ATD PRESS: 3173

Cec 2/2

L 2885-66 FSS-2/ET(1)/FS(v)-3/FCC/EWA(d)/EWA(h) TT/GS/GW

ACCESSION NR: AT5023603

UR/0000/65/000/000/0336/0341

AUTHOR: Gringauz, K. I.; Dolginov, Sh. Sh.; Bezrukh, V. V.; Yeroshenko, Ye. G. 96  
Zhuzgov, L. N.; Muentov, L. S.; Solomatina, E. K.; Fastovskiy, U. V. B+1

TITLE: Comparison of simultaneous measurements of magnetic field and positive ion flux within the Earth's magnetosphere recorded by the Elektron-2 satellite

SOURCE: Vsesoyuznaya konferentsiya po fizike kosmicheskogo prostranstva, Moscow, 1965. Issledovaniya kosmicheskogo prostranstva (Space research); trudy konferentsii. Moscow, Izd-vo Nauka, 1965, 336-341

TOPIC TAGS: space environment, ionospheric physics, electron density, ion density, earth magnetic field/Elektron 2 satellite

ABSTRACT: Measurements of charged-particle flux and magnetic field at a height of 6--11.6 R (R, Earth's radius) were made by Elektron-2. The particle trap used was capable of recording positive ion flux with ion energy in excess of the potential difference of the satellite with respect to its environment and electron flux with electron energy in excess of 100 ev. The magnetometer, with orthogonally arranged sensors, was capable of measuring the magnetic field in the range of  $\pm 120 \times 10^{-3}$  erg

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ACCESSION NR: AT5023603

in each component direction. Its threshold was  $2 \times 10^{-5}$  erg. The satellite measurements, when compared with solar activity data in the form of  $K_p$  indexes recorded via ground observatories, show inconsistencies in the correlation between the variation of magnetic activity on the Earth's surface and the variation of the geomagnetic field intensity and charged particle flux as measured by the satellite. It is uncertain whether these observations can be explained by the solar wind penetrating the magnetosphere or by near-earth plasma due to charged particles accelerated by a yet unknown mechanism. Orig. art. has: 6 figures. [BD]

ASSOCIATION: none

SUBMITTED: 02Sep65

ENCL: 00

SUB CODE: ES,SV

NO REF SOV: 003

OTHER: 008

ATD PRESS: 7109

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03-66 FSS-2/WT(1)/FS(v)-3/FCC/EWA(d)/EWA(h) TT/GS/TM

ACCESSION NR: AT5023612

UR/0000/65/000/000/0418/0419

AUTHOR: Bezrukikh, V. V.; Gringauz, K. I.; Musatov, L. S.; Solomatina, E. K.

TITLE: Possibility of a soft electron component in the outer radiation belt, and the variations in this component

SOURCE: Vsesoyuznaya konferentsiya po fizike kosmicheskogo prostranstva. Moscow, 1965. Issledovaniya kosmicheskogo prostranstva (Space research); trudy konferentsii. Moscow, Izd-vo Nauka, 1965, 418-419

TOPIC TAGS: satellite data analysis, radiation belt, electron radiation

ABSTRACT: Data are given from measurements of charged particle fluxes made by the "Elektron-2" satellite using charged particle traps. The data were obtained during passage of the satellite through the outer radiation belt in the initial stage of flight. Negative collector currents recorded in the trap varied considerably from orbit to orbit; on some orbits there were practically no negative currents. At the same time, radiation counters installed in the satellite showed a fluctuation of only 10% in the count rate for high-energy particles ( $E > 100$  kev). Graphs are given that illustrate this phenomenon. The highest intensity of soft electrons in the outer radiation belt between 30 January and 17 February 1964 was  $\sim 3 \cdot 10^8 \text{ cm}^{-2} \cdot \text{sec}^{-1}$ .

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L 2993-66

ACCESSION NR: AT5023612

recorded on 31 January 1964. Experimental data for this period indicate that this flux is at least ten times the intensity of high-energy electrons trapped in the outer radiation belt and recorded constantly by the radiation counter. These results may be interpreted as evidence of a soft component in the electron fluxes of the outer radiation belt that varies with time to a much greater extent than does the high-energy particle flux. The soft electron region always extended beyond the outer boundary of the radiation belt. "The authors are grateful to S. N. Vernov, Yu. N. Logachev, E. N. Sosnovets, Ye. A. Benediktov, G. G. Getmantsev, and N. A. Mityakov who kindly allowed us to study the results of their experiments before publication." Orig. art. has: 3 figures. [14]

ASSOCIATION: none

SUBMITTED: 02Sep65

ENCL: 00

SUB CODE: ES, NP

NO REF SOV: 004

OTHER: 000

ATD PRESS: 4110

Card 2/2 *md*

SOLOMATINA, I.I.

Using ground surface data to calculate the intensity of icing on  
wires at different heights. Trudy GGO no.57:40-43 '56. (MIRA 10:1)  
(Electric lines—Cold weather conditions) (Ice)

36-57-69-6/16

AUTHOR: Solomatina, I. I.

TITLE: Condensation Accompanying the Mixing of Two Masses of Air ( K voprosu o kondensatsii pri smeshenii dvukh vozdukhnykh mass)

PERIODICAL: Trudy Glavnoy geofizicheskoy observatorii, 1957, Nr 69, pp 45-50 (USSR)

ABSTRACT: The author discusses the mixing of two masses of air with a possible amount of water vapor condensation resulting from the blending. The author examines a case when the amounts of the two air masses are not known. It is assumed that: 1) the process of mixing is adiabatic, 2) no additional vapor comes in from outside, 3) the turbulence coefficient is constant, 4) no change in heat or moisture occurs in the horizontal plane, and 5) the boundary between the two mixing air masses is at the near-surface level, with  $z = 0$ . A mathematical evaluation is given and formulas are deduced to calculate moisture and temperature for any period of time following the onset of the mixing process. The author demonstrates how the humidity saturation can be determined on the basis of temperature data. If this humidity saturation is equal to or less than the humidity obtained for the two mixing volumes, the condensation of vapor begins. The author also explains how to determine mathematically the temperature of condensation from the formula for equivalent temperatures and he deduces this formula.

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SOLOMATINA, I.I.

Diurnal variation of absolute humidity in the lowest atmospheric layer. Trudy GGO no.94:156-162 '60.  
(MIRA 13:5)

(Humidity)

BERLYAND, . . .; SOLOMATINA, I.I.

Theory of diurnal humidity and air temperature variations in  
the lower atmospheric layer. Trudy GGO no.123:62-69 '61.  
(MIRA 14:8)

(Humidity)

(Atmospheric temperature)

43067  
S/531/62/000/127/002/007  
I053/I242

AUTHOR: Solomatina, I.I.

TITLE: The influence of meteorological conditions on the character of daily variations of humidity

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy. no. 127, 1962. Fizika prizemnogo sloya vozdukh, 48-56

TEXT: The change of humidity with respect to time is directly dependent on the equation  $W(\tau) = \frac{V(\tau)}{K(\tau)}$  where  $V(\tau)$  and  $K(\tau)$  represent the rate of evaporation and the coefficient of exchange. These quantities, in turn, depend upon the radiation balance, the soil humidity, the speed of the wind and the mean daily values of the coefficients of exchange and evaporation. In the most practical case, by expanding the value  $V(\tau)$  into a Fourier series of harmonics ( $W'_1$  and  $W'_2$ ) the relation  $\frac{W'_1}{W'_2}$  will be obtained. Two maxima (at midday and midnight) and 2 minima (in the morning and evening) of the daily

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S/531/62/000/127/002/007  
I053/I242

The influence of meteorological...

variations of humidity are deduced on condition that the value of the coefficient of turbulent exchange exceeds the increase of the evaporation by day. The increase of total radiation (the transition from winter to summer) or a decrease of latitude steps up the daily variation of the coefficient of exchange and evaporation. The probability of appearance of a diurnal humidity minimum becomes greater with the decrease of the  $W_1/W_2$  ratio. The latter increases with the intensification of cloud cover, the rise of soil humidity, and wind speed. The experimental data (with a clear sky at latitude of  $60^\circ$  and  $50^\circ$ ) agree with the theoretical conclusions. There is 1 figure.

Card 2/2

SEMENOVA, L.G.; SOLOMATINA, I.I.

Some results of microclimatic observations on rugged ground.  
Trudy GGO no.138:38-41 '63. (MIRA 17:2)

ACCESSION NR: AT4004717

S/2922/63/007/000/0108/0116

AUTHOR: Gracheva, V. P.; Solomatina, I. I.

TITLE: Diurnal change in absolute humidity in the surface boundary layer of the atmosphere

SOURCE: Vses. nauchn. meteorologich. soveshch. Trudy\*, v. 7. Fizika prizemnogo sloya. Leningrad, 1963, 108-116

TOPIC TAGS: meteorology, absolute humidity, humidity, diurnal humidity variation, boundary layer humidity, turbulence, turbulent diffusion, temperature, air temperature, heat transfer, evaporation, atmospheric boundary layer, atmospheric turbulence

ABSTRACT: Diurnal changes in humidity in the surface boundary layer are examined by solving a combined system of equations for the turbulent diffusion of water vapor and the temperature on the ground and in the air, taking into consideration diurnal change in the exchange coefficient. The turbulence coefficient is thus expressed as two functions: one depending on time, the other on height. Because the surface boundary layer of the air is quasi-stationary, the deviations of humidity and temperature from the average daily values can be solved by the method

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ACCESSION NR: AT4004717

of consecutive approximations of the Fourier series. For investigations of diurnal temperature changes, the turbulence coefficient is independent of time and equal to the average daily value. To determine the diurnal change in humidity, one must consider the variations in the exchange coefficient with time. The deviation of the humidity from its average daily value in the layer  $z=h$  is then expressed by the formula

$$q_1 = 2a \sum_{n=1}^{\infty} \left\{ \frac{1}{\sqrt{n}} \left[ W_n' \cos \left( n\omega\tau - \frac{\pi}{4} \right) - W_n'' \sin \left( n\omega\tau - \frac{\pi}{4} \right) \right] + \right. \\ \left. + C (W_n' \cos n\omega\tau - W_n'' \sin n\omega\tau) \right\}, \quad (1)$$

where,

$$a = \frac{1}{\rho \sqrt{\omega k_2}}; \quad C = \frac{\sqrt{\omega k_2}}{k_1} \ln \frac{k_2}{\omega_0 + k_1 z};$$

$k$  and  $k_2$  are the average daily values of the exchange coefficient at the heights  $z=1$  M, and  $z=h_m$ ;  $\omega$  is the angular velocity of rotation of the earth;

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ACCESSION NR: AT4004717

$W_n = W_n' + iW_n''$  is the harmonic for the Fourier series for the function  $W(\zeta) = \frac{V(\zeta)}{k(\zeta)}$ ; the functions  $V(\zeta)$  and  $k(\zeta)$  determine the changes in evaporation and the exchange coefficient with  $\zeta$ , where  $\zeta = \int_0^t k(\tau) d\tau$ . The diurnal changes in the exchange coefficient and evaporation from the ground are determined by the first approximation. Equation (1) allows computations of diurnal humidity variations at various heights. It also can be used to determine the number of extremes in the diurnal humidity fluctuations by merely differentiating the expression for  $q$  and equating it to zero. The equation below expresses the number of extremes during the diurnal change of absolute humidity:

$$\frac{W_1'}{W_2'} = f(\tau), \quad (2)$$

where 
$$f(\tau) = \frac{\cos 2\omega\tau - \sin 2\omega\tau - 2C \sin 2\omega\tau}{\sqrt{2} (\sin \omega\tau - \cos \omega\tau) + C \sin \omega\tau}$$

Thus, the number of extremes for a certain area and season is determined by the diurnal variations of the radiation balance. On the basis of the first approximation, the diurnal change in the exchange coefficient and evaporation, and

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ACCESSION NR: AT4004717

the relationship of  $\frac{w_1}{w_2}$  can be found. The size of the latter determines the type of diurnal humidity change. Research into the problem of diurnal humidity changes is important for forecasting fogs and cloudiness. Since fogs are formed at night, knowledge of nighttime humidity changes is important. Contrary to former assumptions, the present investigation demonstrated such variations to be considerable. Nighttime humidity changes are determined primarily by the redistribution of the of the initial humidity profile. The role of dew is not very important. For a determination of the initial humidity profile, data on the changes in  $q$  are required. These can be calculated by means of:

$$q_1 = \psi_0 + 2 \sum_{n=1}^{\infty} \psi_n' g_n' - \psi_n'' g_n'' \quad (3)$$

where

$$g_n' = \frac{A_1'}{\Delta_n} (C_n' r_n' + C_n'' r_n''); \quad g_n'' = \frac{A_1'}{\Delta_n} (C_n' r_n'' - C_n'' r_n'); \quad \Delta_n = C_n'^2 + C_n''^2; \quad C_n' = A_1' + \sqrt{\frac{n\omega}{2}}; \quad C_n'' = \sqrt{\frac{n\omega}{2}};$$

$$r(x_n) = e^{i x_n^2} \operatorname{erfc} x_n \sqrt{t}; \quad x_n = \sqrt{\frac{n\omega k_2'}{k_2}}; \quad A_1' = \frac{k_2'}{\sqrt{k_2'} \ln \frac{k_1'}{x_0 + k_1' x}}$$

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ACCESSION NR: AT4004717

Here:  $\psi_0$  = the average daily humidity for the past 24 hours;  $\psi'_n, \psi''_n$  are the harmonics of the Fourier series as per the formula below:

$$\psi(\tau) = \psi_0 + 2 \sum_{n=1}^{\infty} (\psi'_n \cos n\omega\tau' - \psi''_n \sin n\omega\tau');$$

and  $k_2$  and  $k_1$  are the average values of the exchange coefficient in the layer  $z \gg h$  in conformity with  $\mathcal{T} > 0$  and  $\mathcal{T} < 0$ . The values of  $g_n^I$  and  $g_n^{II}$  for various  $k_1, k_2, n$  and  $\mathcal{T}$  are computed. For practical purposes, these formulas are simplified for such items as: number of extremes, the more common values of  $k_1, k_2$ , etc. The article contains numerous such simplified formulas and explanations of how they affect the computation of the minimum nighttime humidity. In general, the expected minimum humidity is equal to the average value of the previous 24 hours. The expected variation for the night equals  $\mathcal{T}_0 - \mathcal{T}_{av}$ . Orig. art. has: 3 figures, 2 tables and numerous formulas.

ASSOCIATION: GGO.

SUBMITTED: 00

DATE ACQ: 27Dec63

ENCL: 00

SUB CODE: ES

NO REF SOV: 008

OTHER: 000

Card 5/5

SOLOMATINA, I.I.

Effect of the ground relief on the wind velocity and turbulent  
exchange in the ground layer of the atmosphere. Trudy GGO no.158:  
50-55 '64. (MIRA 17:9)

1 64965-45 EWT(1)/FCO GW

ACCESSION NR: AT5019736

UK/2531/65/000/172/0058/0069

AUTHOR: Solomatina, I. I.

TITLE: The effect of topography on the meteorological characteristics of the surface boundary layer

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 172, 1965. Voprosy atmosferynoy diffuzii i zagryazneniya vozdukha (Problems of atmospheric diffusion and contamination), 58-69

TOPIC TAGS: micrometeorology, atmospheric boundary layer, atmospheric turbulence, turbulent diffusion

ABSTRACT: Meteorological observations have been carried out in the region of the Shchekinskaya GRES during the 1961-1963 period to study the effect of topography on the wind, temperature, humidity, and turbulent exchange in the surface boundary layer. The actual observation program was discussed in detail earlier by the same author (Tr. GGO, no. 158, 1964). The present article gives the results of measurements of wind, temperature, and humidity and the turbulence coefficients over terrain with relief variations of 30-70 m. Summer

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1. 64965-65

ACCESSION NR: AT5019736

and winter data are treated separately. The author emphasizes that the changes in the meteorological characteristics depend very greatly on the weather conditions and the observation time. The need for new extensive experimental data and further theoretical studies is indicated. Orig. art. has: 1 formula, 2 figures, and 5 tables. [08]

ASSOCIATION: Glavnaya geofizicheskaya observatoriya, Leningrad (Main Geophysical Observatory)

SUBMITTED: 00

ENCL: 00

SUB CODE: ES

NO REF SOV: 002

OTHER: 00

ATD PRESS: 4083

Card 2/2

SOLOMATINA, I.L.

Effect of meteorological conditions on diurnal humidity variations.  
Trudy GGO no. 127:48-56 '62. (MIRA 15:7)  
(Humidity)

SOLOMATINA, K.

Intensify laboratory control. Obshchestv. pit. no. 6:38-39  
Je '58. (MIRA 11:7)

1. Nachal'nika otdela sanitarnoy sluzhby Ministerstva trgovli RSFSR.  
(Restaurants, lunchrooms, etc.)

KRASNITSKAYA, Ye.S.; SOLOMATINA, K.Z.; FISHER, Ye.A., red.; EL'KINA,  
E.M., tekhn. red.

[Materials on food sanitation in public eating establishments  
and commercial enterprises] Sbornik materialov po pishchevoi  
sanitarii v predpriatiakh obshchestvennogo pitaniia i trgovli.  
Moskva, Gostorgizdat, 1963. 270 p. (MIRA 16:5)

1. Russia (1917- R.S.F.S.R.) Ministerstvo trgovli.  
(Food industry--Sanitation) (Food law and legislation)



SOLOMATINA, L.N.

Ekhabi series. Trudy VNIGRI no.181:83-87 '61.  
(Sakhalin—Geology, Stratigraphic)

(MIRA 15:2)

SOLOMATINA, L.N.

Possibility of using the morpnometric method of prospecting for anticline structures in the southeast of Sakhalin. Trudy VNIGRI no.224:302-310 '63.

S/055/62/043/003/063/063  
3104/2102

AUTHORS:

Sedov, V. L., Solomatina, L. V., Il'chenko, L. N.

TITLE:

The heat conductivity of a natural magnetite crystal at low temperatures

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 3(9), 1962, 1125-1126

TEXT: The heat conductivity of a natural magnetite single crystal (from the Ural) below 15°K was measured using a method worked out by N. V. Zavaritskiy and A. G. Zel'dovich (ZhTF, 26, 2032, 1956). Magnetic fields of up to 10 koe were applied in various directions. In all measurements the temperature gradient lay along the [111] direction of the octahedral crystal. The results (Fig. 1) clearly show the action of the spin waves in heat transfer. Above 3°K, heat conductivity is a linear function of temperature, below 3°K it is not. This deviation from linearity is related to the activation energy of the spin waves. At temperatures around 90°K, magnetic fields of up to 10 koe have no effect on heat conductivity within the accuracy of measurement which is 2 %. There are 2 figures.

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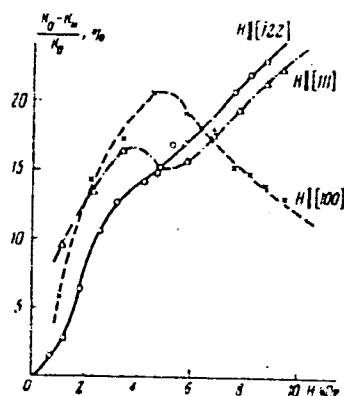
The heat conductivity of a natural...

S/056/62/043/003/063/063  
B104/B102

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: July 23, 1962

Fig. 1. Relative changes in heat conductivity at 5.9°K in magnetic fields of various directions.



Card 2/2

SOURCE CODE: UR/0274/66/000/003/V031/V031

ACC NR: AR6023377

AUTHOR: Solomatina, M. P.

TITLE: Investigation of the mutual influence of symmetrical cable communications circuits in a pulsed regime

SOURCE: Ref. zh. Radiotekhnika i elektrosvyaz', Abs. 3V237

REF SOURCE: Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR, vyp. 26, 1965, 127-136

TOPIC TAGS: wire communication, circuit design, communication line

ABSTRACT: The process of energy transfer between wire communications circuits in the presence of electromagnetic pulses is studied. The case of energy transfer between short symmetrical circuits is considered. Formulas are derived for calculating the interaction at both ends of a communications line in a pulsed regime. [Translation of abstract]

SUB CODE: 17

UDC: 621.391.827

Card 1/1

SOLOMATINA, O.G.

Certain immunological reactions in the dynamics of the rheumatic process in children. *Pediatrics* no.5:39-43 S-O '54. (MLRA 7:12)

1. Iz revmaticheskoy kliniki Nauchno-issledovatel'skogo pediatricheskogo instituta Ministerstva zdravookhraneniya RSFSR (dir. kandidat meditsinskikh nauk V.N.Karachevtseva) i Klinicheskoy detskoy bol'nitsy (glavnyy vrach, sluzhennyy vrach RSFSR Ye.V.Prokhorovich)  
(RHEUMATISM, in infant and child,  
immunol. aspects)

SOLOMATINA. O. G. Cand Med Sci -- (diss) "Certain immunological reactions in the  
dynamics of <sup>the</sup> rheumatic process in children." Mos, 1956. 14 pp 20 cm. (Min of Health  
USSR. Centr. Inst for the Advanced Training of Physicians), 100 copies  
(KL, 7-57, 110)

77

MATVAYEV, M.P.; GAMBURG, R.L.; SOLOMATINA, O.G.

"Rheumatism in children." A.B.Volovik. Reviewed by M.P.Matveev,  
R.L.Gamburg, O.G.Solomatina. Pediatria 39 no.2:87-89 Mr-Apr '56.  
(VOLOVIK, A.B.) (MIRA 9:8)  
(RHEUMATIC FEVER)



~~SOLIMATINA, O.G.~~

Periarteritis nodosa in a 14-year-old boy. Pediatria no.2:76-79  
P '57. (MIRA 10:10)

1. Iz kafedry pediatrii Tsentral'nogo instituta usovershenstvovaniya vrachey (zav. - deystvitel'nyy chlen AN SSSR prof. G.N. Speranskiy) na baze detskoy bol'nitsy imeni Dzerzhinskogo (glavnyy vrach Ye.G.Krayeva)  
(ARTERIES--DISEASES)

SOLOMATINA, O.G., kand.med.nauk; KLAYCHEVICH, G.I., kand.med.nauk; LEVINA,  
S.M.; IVANOVA, A.A.

Clinical aspects of rheumatic fever in children. Sov.med. 24 no.11:  
3-8 N°60. (MIRA 14:3)

1. Iz revmatologicheskoy kliniki kafedry pediatrii (zav. - deystvitel'nyy  
chlen AMN SSSR prof. G.N.Speranskiy, nauchnyy rukovoditel' kliniki -  
doktor meditsinskikh nauk R.L.Gamburg) Tsentral'nogo instituta  
usovershenstvovaniya vrachey na baze klinicheskoy detskoy bol'nitsy imeni  
Dzerzhinskogo (glavnyy vrach A.N.Kudryasheva).  
(RHEUMATIC FEVER)

GAMBURG, R.L., doktor med.nauk; SOLOMATINA, O.G., kand.med.nauk

Use of hormonal preparations in active rheumatic phases in children.  
Sov.med. 25 no.4:63-67 Ap '61. (MIRA 14:6)

1. Iz kafedry pediatrii (zav. - deystvitel'nyy chlen AMN SSSR  
prof. G.N.Speranskiy) Tsentral'nogo instituta usovershenstvovaniya  
vrachey (dir. M.D.Kovrigina).  
(ADRENOCORTICAL HORMONES) (RHEUMATIC FEVER)

SOLOMATINA, O.G., dotsept; LYAPUNOVA, A.P., LEVINA, S.I.; KOGAN, N.M.

Differential approach to the diagnosis of mitral stenosis in children. Sov.med. 26 no.1:85-90 Ja '63. (MIRA 16:4)

1. Iz revmatologicheskoy kliniki (rukovoditel' - prof. R.I. Gamburg) kafedry pediatrii (zav. - deystvitel'nyy chlen AMN SSSR prof. G.N.Speranskiy) Tsentral'nogo instituta usovershenstvovaniya vrachey na baze detskoy klinicheskoy bol'nitsy No. 9 (glavnyy vrach A.N.Kudryashova).  
(CHILDREN—DISEASES) (MITRAL VALVE—DISEASES)

CHERNYKH, I. I.

Dissertation: "Dynamics of Accumulation and Conversion of Carbohydrates in Grapes in the Loskovskaya Oblast." Cand Biol Sci, Moscow Oblast Pedagogical Inst, 13 May 54. Vechernyaya Moskva, Moscow, 3 May 54.

SO: SUM 284, 26 Nov 1954.

CHROMATI, V.I.; A. I., N.D.; CHROMATI, V.I.; CHROMATI, V.I.

Liquid - vapor equilibrium in the systems acrolein - methyl  
ethyl ketone, isopropyl alcohol - allyl alcohol - water,  
and allyl alcohol - secondary butyl alcohol. Zhur. prikl.  
khim. 37 no.10:2210-2216 1964.

(MIL 17:11)

SOV/ 112-58-1-175

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1958, Nr 1, p 21 (USSR)

AUTHOR: Zalkind, I. Ya., Solomatina, T. V., Vasil'yeva, G. N., and  
Lebedeva, M. F.

TITLE: A Lighter Type of Concrete Lining for a PK-19 Series High-Pressure  
Boiler (Oblegchennaya betonnyaya obmurovka seriynogo kotel'nogo agregata  
vysokogo davleniya PK-19)

PERIODICAL: Naladochn. i eksperim. raboty ORGRES, 1956, Nr 13, pp 3-9

ABSTRACT: Bibliographic entry.

AVAILABLE: Library of Congress

1. Combustion chamber liners    2. Concrete--Applications

Card 1/1

ZAIKIND, I.Ya., kand. tekhn. nauk; SOLOMATINA, T.V., inzh.; NADZHAROV, M.A.,  
kand. tekhn. nauk.

Fluxing coals with thigh fusion-temperature ash in cyclone firing.  
Teploenergetika 5 no.4:34-41 Ap '58. (MIRA 11:5)

1. Gosudarstvennyy trest po organizatsii i ratsionalizatsii elektro-  
stantsiy i Moskovskoye otdeleniye Tsentral'nogo nauchno-issledovatel'-  
skogo kotloturbinnogo instituta.  
(Combustion) (Furnaces)



Solomatina, V.V.

Amylase and phosphatase activities in potato tubers grown under different conditions, at different stages of growth development, in relation to the process of starch formation. A. V. Kotelnikova and V. V. Solomatina (Lab. Physiol. Chem., Acad. Sci. U.S.S.R., Moscow). *Biokhimiya* 19, 144-9 (1954); cf. *C.A.* 48, 7713e. The amylase activity markedly increases as the tubers mature. The activity of acid phosphatase in tuber exts. is independent of the type of fertilizer used and of the stage of the tuber maturity. A definite parallelism exists between the increase in the tuber starch content as the tuber develops and the changes in the amylase activity in the tuber exts. B. S. Levina.

SOLOMATINA, V. V.

3  
Some variety peculiarities of activity of apyrase in potato tubers. A. V. Kotelnikova and V. V. Solomatina. *Doklady Akad. Nauk S.S.S.R.* 95, 325-7 (1954).--The enzymes concerned with transformations of adenosinephosphates, namely apyrase and acid phosphatase, were examd. in the tubers of various varieties of potatoes. A considerable difference in the enzyme activities of 3 varieties studied was found, indicating a particularly important role of apyrase activity at the stage of tuber development at which intensive starch synthesis takes place. Generally, the varieties with low starch content have low apyrase activity, while the high-starch forms show a high activity of the enzyme. The phosphatase activity was essentially the same in all 3 varieties.

G. M. Kozlov

KOTEL'NIKOVA, A.V.; SOLOMATINA, V.V.

Radiophosphorus in the study of adenosinetriphosphoric acid metabolism in rabbits in alloxan diabetes [with summary in English].  
Biokhimiia 22 no.6:954-962 N-D '57. (MIRA 11:2)

1. Laboratoriya fiziologicheskoy khimii Akademii nauk SSSR, Moskva.  
(DIABETES MELLITUS, experimental,  
ATP metab., radiophosphorus study (Rus))  
(ADENYLPYROPHOSPHATE, metabolism,  
in exper. diabetes mellitus, radiophosphorus study  
(Rus))

KOTEL'NIKOVA, A.V.; DOVEDOVA, Ye. L.; SOLOMATINA, V.V.

Separation of adenosine phosphoric acids by the use of Russian  
anionites. Biokhimiia 24 no.2:215-221 Mr-Apr '59. (MIRA 12:7)

1. Laboratory of Physiological Chemistry, Academy of Sciences of  
the U.S.S.R., Moscow.

(ION EXCHANGE RESINS,

anion exchange resins, determ. of ATP (Rus))

(ADENYL PYROPHOSPHATE, determ.

anion exchange resin technic (Rus))

OLSHAN, V.V., G. S. K. A., I. A., K. T. L. K. O. V. A., A. V., (USSR)

"Changes in ATP and other Nucleotide Contents in  
Rat Liver and Muscle in 2,4-Dinitrophenol Poisoning."

Report presented at the 4th Int'l. Biochem. Congr.,  
Moscow, 10-16 Aug 1961.

KCTEL'NIKOVA, A.V.; SOLOMATINA, V.V.; GORSKAYA, I.A.

Adenosinephosphoric acid content of the rat liver and muscles in  
dinitrophenol poisoning. Biokhimiia 25 no.6:1085-1091 N-D '61.

(MLA 14:5)

1. Institute of Biochemistry, Academy of Sciences of the U.S.S.R.,  
Moscow.

(PHENOL—TOXICOLOGY)  
(LIVER)

(MUSCLES)  
(ADENOSINEPHOSPHORIC ACIDS)

KOTEL'NIKOVA, A.V.; SOLOMATINA, V.V.

Investigating some transformations of nucleotides from aqueous extracts of the liver and spleen of a rabbit. Dokl. AN SSSR 143 no.2:452-455 Mr '62. (MIRA 15:3)

1. Institut biokhimii im. A.N.Bakha AN SSSR. Predstavleno akademikom A.I. Oparinym.

(NUCLEOSIDE MONOPHOSPHATE KINASE)

(ADENYLATE KINASE)

(LIVER)

(SPLEEN)

KOTELNIKOVA, A.V.; SOLOMATINA, V.V.

Study of the ability of some nucleotides to an electrolytic  
reduction. Biokhimiia 30 no.4:816-824 51-Ag '65.

(MIRA 18:8)

I. Institut biokhimiia imeni A.N. Bakha AN SSSR, Moskva.



BYBOCHKIN, Aleksey Mironovich; LUGOV, S.F., nauchn. red.;  
SOLOMATINA, Z.D., ved. red.

[Tungsten deposits and the characteristics of their  
distribution] Mestorozhdeniia vol'frama i zakonomerno-  
sti ikh razmeshcheniia. Moskva, Nedra, 1965. 235 p.  
(MIRA 19:1)

SOLOMATINA, Zinaida Fedorovna, komandir korablya, Geroy Sotsialisticheskogo Truda, delegat XXII s'yezda Kommunisticheskoy partii Sovetskogo Soyuz.

Clear objective. Grazhd.av. 18 no.12:1 D '61. (MIRA 15:1)  
(Aeronautics, Commercial)

SOV/132-58-12-4/14

AUTHORS: Blinov, N.I., Kontorshchikov, P.V., Lyubimov, V.P., Solomatov, M.A. and Vershinin, Yu.I.

TITLE: To Increase the Durability of Shot Boring Bits (Povysheniye stoykosti drobovykh koronok)

PERIODICAL: Razvedka i okhrana nedr, 1958, Nr 12, pp 24-31 (USSR)

ABSTRACT: The Sverdlovsk Mining Institute conducted extensive tests with different shot boring bits to establish the main factors which increase the resistance to wear of the bits under different geological conditions. These factors are: 1) the influence of the hardness of shot boring bits on the drilling speed; 2) the influence of the chemical composition of these bits on their resistance to wear and on the drilling speed; and 3) the influence of the shape of the bits on their resistance to wear and on the drilling speed (See Graphics 1 to 7). The following conclusions were reached: 1) in the drilling of bore holes with tempered steel shots, the boring bits must have vertical rectangular indentations. They are most simple to manufacture, maintain constant pressure on the rock and increase drilling speed; 2) the drilling speed depends on the shape of the indentation, its width and height

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To Increase the Durability of Shot Boring Bits

SOV/132-58-12-4/14

and also on the thickness of the walls and the hardness of the metal of the bit. Bits with a rectangular indentation and with 10 - 12 mm thick walls give the best results; 3) the basic parameters of the bit must be as follows: a) a rectangular 150 - 200 mm high and  $1/4 - 1/8 \pi D$  wide indentation; b) the walls of the bit must be 10 - 12 mm thick; c) the total height of the bit must be 250 - 300 mm; 4) the shot boring bits must be made from steel of the brands U12S, 30KhGS, 40Kh and 45, tempered for a metal strength of 25 - 30 HRC.

There are 7 graphs, 1 table and 10 Soviet references.

ASSOCIATION: The Sverdlovskiy gornyy institut (The Sverdlovsk Mining Institute)

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14(6)

AUTHOR: Solomatov, V.I., Engineer

SOV/98-59-4-4/17

TITLE: On the Problem of Selecting the Type of Spillway Structure (K voprosu o vybore tipe vodosbrosnogo sooruzheniya)

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1959, Nr 4, pp 20-23 (USSR)

ABSTRACT: The author stresses the importance of two-storied dams such as the Ivan'kovskaya and Uglichskaya ploviny (Ivan'kovo and Uglich dams) and the Rybinsk dam equipped with bottom openings. Mosenergo under whose administration are the Upper Volga hydroelectric power plants, has much experience in operating them. The control data of the Gidrotekhnicheskaya sluzhba (Hydrotechnical Service) of the Mosenergo also reveals that the two-storied dams perform excellently under any conditions, bottom openings open or partly open. Apart from a 10-15% saving in concrete, they have a steadier flow capacity and are more suitable during ice-drift periods than dams of the conventional

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SOV/98-59-4-4/17

On the Problem of Selecting the Type of Spillway Structure

type. The two-storied dams are especially well suited for medium-pressure hydroelectric power plants to be erected on large rivers flowing through the great plains of the USSR. The author uses the following formula to ascertain the amount of water discharge during the period T (from the moment the dam openings are open to the moment the reservoir is filled):

$$\bar{Q}_{1,2} = \frac{\sum_{i=1}^T Q_{oi} \Delta t_i - \sum_{i=1}^T Q_{2i} \Delta t_i - \sum_{i=1}^T Q_{1i} \Delta h_i}{T_{1,2}},$$

whereby  $\sum_{i=1}^T Q_{oi} \Delta t_i$  is the overall influx into the reservoir during the period T;  $\sum_{i=1}^T Q_{2i} \Delta t_i$  is the water discharge through the power plant during that time;

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On the Problem of Selecting the Type of Spillway Structure

$\Delta h_1$  is the part of the outlet kept back in the reservoir during that time;  $\bar{h}_1$  is the average area of the reservoir surface when reaching the value  $\Delta h_1$ . There are 3 graphs.

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SOV/98-59-8-4/33

14(10,11)

AUTHORS:

Berezinskiy, A.R., Professor, Doctor of Technical Sciences, and  
Solomatov, V.I., Engineer

TITLE:

The Use of Plastics in Hydraulic Construction Work

PERIODICAL:

Gidrotekhnicheskoye stroitel'stvo, 1959, Nr 8, pp 12-17 (USSR)

ABSTRACT:

The article opens with a general introduction on the importance of synthetic materials, stating that as a result of a resolution passed by the May Plenum of the Party Central Committee, the output of plastics is to be increased sevenfold, one-third of all production being devoted to construction materials. A short account of the main features and properties of plastics is given, and the author then proceeds to a review of the part played by plastics in the field of hydraulic construction work. The primary advantage of plastics is that they are waterproof, there being 4 basic methods of application: 1) Plastic sheeting, usually polyethylene, polyisobutylene (oppanol A and BA) or polyvinyl chloride (mipolam, etc.), which is used for anti-filtration screens in dams or for waterproofing tunnels, etc. Examples given of this type of application

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SOV/98-59-8-4/33

# The Use of Plastics in Hydraulic Construction Work

are the Semmering tunnel in Austria, the subway in Stockholm, and research is being conducted by the VNIIGIM and the East German Institute of Hydraulics. A cementless sand concrete, bound by furfural, developed by the Central Scientific Research Institute of Subterranean Mining Construction Work, is also briefly described; 2) this method entails infiltrating the plastic (bitumen, paraffin, etc.) into the pores of the concrete after it has set, and the results of tests by the NIS Hidroproyekt are given; 3) the painting of the surface of concrete - not a new method, but one which has recently extended to asphalts and plastics as well as bitumen. Research is being carried out by the Leningrad Metrostroy; 4) the atomization of plastics over the surface of concrete, and a water-proof asphalt plastic known as "atizol" has been developed by the TsNIIS. The author goes on to discuss the part played by individual components made from plastics, citing as examples the use of Mark B laminated wood plastics (DSP-B, GOST 5704-51) by the Hidrostatproyekt in the form of runners for sliding bearings in a number of GES projects, and the use of the same plastic on the Moskva

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SOV/98-39-3-4/33

### The Use of Plastics in Hydraulic Construction Work

Canal for bushes and bearings in turbines, pumps, etc. The possibilities of whole construction units being made of plastics (such as ships' hulls) are touched on, and then a rapid survey is made of the use of plastics as elements for joining 2 components, i.e., as joints, in the form of plastic strips which are stuck to the surface of the concrete by special adhesives (Nr 88, according to the NIS of the Hidroproyekt); as bungs for warping seams, replacing metal fillings (mention is made of the use of polyvinyl chloride bungs in the Kremenchug GES project); and also as adhesives, research on which has been conducted in East Germany, Czechoslovakia and by the Khar'kov Institute of Engineering and Construction. The last section of the article is devoted to the use of plastics in major construction work, and briefly describes work carried out at a number of Moscow ferro-concrete works by the Scientific Research Institute for Construction of the Ministry of Construction of the RSFSR, and also the work of the Institute for Foundations and Underground Construction in the field of the application of synthetic tars for strengthening foundation dams.

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The Use of Plastics in Hydraulic Construction Work

There are 41 references, 16 of which are Soviet, 7 English, 7 West German, 4 American, 2 Czech, 1 East German, 1 Spanish, 1 Italian, 1 Hungarian, and 1 Dutch.

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15.8540

AUTHOR: Solomatov, V. I., Engineer

TITLE: Concrete containing furan resin

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, no. 9, 1960, 16-17

TEXT: The author describes measures for increasing the imperviousness, strength, and acid resistance of concrete. Collaborators of VNIIST and NIIPlastmass studied the addition of furyl alcohol to the concrete mixture. The following recipe is given: Approximately 57 kg of furfuryl alcohol, 8.5 kg of aniline hydrochloride, 334 kg of cement, and 134 kg of water are to be added to 1 m<sup>3</sup> of concrete. This concrete is well suited for the production of water containers and similar objects. Collaborators of TsNIIPodzemshakhtstroy and the Kafedra plastmass MKhTI imeni D. I. Mendeleyeva (Department of Plastics of the MKhTI imeni D. I. Mendeleyev) developed a mineral organic concrete containing no cement. This type of concrete is practically a plastic with mineral filler. In this case, furfuryl acetone monomer, furfuryl, benzene sulfo acid, and building sand were used. The concrete is solidified by polymerization of the monomer.

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